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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/760,682	01/16/2001	Masum Choudhury	A1-057 US	4082

7590 01/15/2004

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MOLEX INCORPORATED  
222 Wellington Court  
Lisle, IL 60532

EXAMINER

WANG, GEORGE Y

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 01/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/760,682

Applicant(s)

CHOUDHURY ET AL.

Examiner

George Y. Wang

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16, 18-29, 31-39 and 41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16, 18-29, 31-39 and 41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. The corrected drawings were received on October 14, 2003. These drawings are accepted by Examiner.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-11, 13-16, 18-25, 27-29, 31-39, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bunin et al. (U.S. Patent No. 5,907,651, from

hereinafter "Bunin") in view of Yanagawa et al. (U.S. Patent No. 5,297,228, from hereinafter "Yanagawa").

Bunin discloses a passive alignment fiber optic connection system (fig. 3) and method having a two connector modules (fig. 3, ref. 24, 32) with a plurality of optical fibers (fig. 3, ref. 36) terminating flush against the connector face (col. 4, lines 29-32). Bunin also teaches at least two projecting pins (fig. 3, ref. 38) with corresponding pin passages (fig. 3, ref. 42) spaced from one another and from optical fibers with predetermined alignment patterns (fig. 4, ref. 54, 60, 100; col. 4, lines 55-58) for center-to-center alignment between connectors. The respective ends of the fibers, which are generally perpendicular to the connector face, are closely spaced (fig. 3) from that of the other connector, whose face is also generally perpendicular to the length of the guides, before fully engaging in contact alignment (col. 2, lines 23-54). Bunin also teaches the use of filler to accommodate fiber waveguides (col. 4, lines 62-65).

However, Bunin fails to specifically disclose a substrate, which contains no fibers and no grooves for receiving fibers, that serves as an intermediary between the two connector modules. Furthermore, the Bunin reference does not specifically teach a substrate that is made of two wafers such that one wafer has a plurality of waveguides while the other has a plurality of channels with when assembled together, contains filler to accommodate the waveguides.

Yanagawa discloses an optical waveguide connector with an intermediary substrate module (fig. 5, ref. B2) that contains waveguides that are generally perpendicular to the face of the substrate and no fibers or grooves for receiving fibers.

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Yanagawa also teaches two wafers, one having a plurality of waveguides (fig. 2) while the other having a plurality for corresponding channels (fig. 1) for assembly.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have sandwiched between two connector modules a dual wafer substrate module containing no optical fibers or grooves for receiving fibers since one would be motivated by a high-reliability connection that can be carried out in a short time (col. 2, lines 2-7). Furthermore, providing a waveguide substrate not only permits ease of connection, but also significantly reduces optical loss (col. 3, lines 11-12).

It would have also been obvious to one of ordinary skill in the art at the time the invention made to have used filler for the combination of the wafers in the substrate of Yanagawa as with the connector of Bunin since one would be motivated to hold and fix the waveguides in a proper spaced relationship to facilitate accurate alignment (abstract).

4. Claims 12 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bunin and Yanagawa in view of Applicant's Admission of Prior Art (AAPA).

Bunin and Yanagawa disclose the optical connection system as recited above. However, neither of the references specifically disclose the connection system for use in DWDM products.

AAPA discloses the use of connection systems in DWDM products (pg. 3, line 23 – pg. 4, line 4).

It would have been obvious to one of ordinary skill at the time the invention was made to make use of a connection system in DWDM products since it is well known that in DWDM products, multiplexing can be used to combine channels of different wavelengths with minimum inter-channel cross-talk (pg. 3, lines 13-15).

### ***Response to Arguments***

5. Applicant's arguments filed 14 October 2003 have been fully considered but they are not persuasive.

It has been held that the recitation that an element is "capable of" performing a function, such as being "manually replaceable" or "removably replaceable," is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson*, 69 USPQ 138. In this case, Applicant argues that "replaceability" cannot be achieved because the chip and the fiber aligning jigs are "bonded" by an "adhesive." However, Examiner asserts that replaceability and removability is not limited because bonds can be broken or dissolved. Furthermore, even if they are not, Applicant states "the entire assembly would then be removed and discarded." Because the substrate is included in the "entire assembly," it would still fall within the limitation of being able to be "manually replaceable" or "removably replaceable."

Therefore, Examiner holds to the validity of the references used and maintains rejection.

**Conclusion**

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Y. Wang whose telephone number is 703-305-7242. The examiner can normally be reached on M-F, 8 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 703-305-3492. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

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gw  
December 29, 2003

TO ANTON  
PRIMARY EXAMINER